INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

S-E-C-R-E-T/NOFORN PROCESSING COPY

COUNTRY Czechoslovakia

SUBJECT Transmitting and Receiving Radio Set RM-31-P

REPORT [redacted] 25X1

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE

[redacted] 25X1

1. The latest type of Czechoslovak transmitting and receiving set designated for use by artillery, infantry, and antiaircraft artillery is the RM-31-P. The set is the product of Tesla, Pardubice. Technically, except for a few minor changes which allegedly simplified the functioning, this set resembles the RM-31-A set used in vehicles and tanks. It is a 6-watt set with a range of frequencies from 2,000 to 6,000 kilocycles and a smallest possible change of 5 kilocycles. The set has 16 miniature electron tubes belonging to the series T-1, T-2, T-3, and T-4, all of which are army types (the corresponding civilian types are probably 1-F-33 and 1-H-31). The end electron tube is of a normal size. There are two accumulators for the supplying of heating current; the accumulators are of the 2-KN-10 1.5-volt type with nine hours of working capacity. Thus the set can be for 18 hours in continuous use. The transmitter is supplied with 300-volt current from a hand-operated dynamo.

2. [redacted] information in paragraph 1 above and additional details on this radio set including technical data, a description of the components of the set, a description of the accumulator and spare parts case, a description of the dynamo used to operate the set, and a description of antennae used. These descriptions are keyed to accompanying sketches. 25X1

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STATE	ARMY	NAVY	AIR	FBI	AEC				
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(Note: Washington distribution indicated by "X"; Field distribution by "#".)

INFORMATION REPORT INFORMATION REPORT

July 12, 1957 25X1

Transmitting and Receiving Radio Set RM-31-P

25X1

1. The latest type of Czechoslovak transmitting and receiving set designated for use by artillery, infantry and antiaircraft artillery is the RM-31-P. The set is the product of Tesla, Pardubice. Technically, except for few minor changes which allegedly simplified the functioning, this set resembles the RM-31-A set (used in vehicles and tanks). It is a 6-watt set with the range of frequencies from 2,000 to 6,000 kilocycles and the smallest possible change of 5 kilocycles. The set has 16 miniature electron tubes belonging to the series T-1, T-2, T-3 and T-4, all of which are army types (the corresponding civilian types are probably 1-F-33 and 1-H-31). The end electron tube is of a normal size. There are two accumulators for the supplying of heating current; the accumulators are of the 2-KN-10 1.5 volt type with nine hours of working capacity. Thus the set can be for 18 hours in a continuous use. The transmitter is supplied with 300 volt current from a hand operated dynamo.

2. Technical data:

Model: RM-31-P
Power: 6 watt
Frequency range: 2,000 - 6,000 kilocycles
Tubes: 16 miniature elctron tubes, 1 normal size end tube
Heating voltage: 1.5 volt
Sources of electric current: 2 accumulators 1.5 volt, 1 hand operated dynamo 300 volt
Weight: 16 kg (without the accumators and dynamo)
Crew: 3 men - radiooperator, dynamo-operator and log keeper
Antennas: rod aerial, pole aerial and dipole aerial.

3. Drawbacks of the radio set:
- heavy wight for field transportation
- short lifetime of accumulators
- easy location by the enemy
- complicated operation requiring a long training and causing delays in establishing the communication
- frequent breakages of miniature lectron tubes caused by transpottation
- short lifetime of minature elctron tubes
- difficult repairs which were allowed to be perfomed only by trained radio mechanics.

4. Efficient ranges:

	Rod Aerial		Pole Aerial	
	Phone sign.	Code sign.	Phone sig.	Code signals
Day	3 - 5 km	5 - 8 km	15 - 20 km	25 - 30 km
Night	8 - 10 km	12 - 15 km	25 - 30 km	50 - 60 km

5. Description of the transmitting and receiving set: The set is installed in a metal case 35 cm wide, 25 cm high and 20 cm long.

Legend for the sketch:

(1) Knob and scale for frequency measured in 1,000 kilocycles.

(2) Knob and scale for frequency measured in 100 kilocycles.

(3) Knob and scale for frequency measured in 10 kilocycles.

(4) Knob and scale for frequencies measured in 5 kilocycles.

(5) Cover protecting a socket used for voltmeter plug when checking the tubes.

(6) Indicator showing the frequency the set is tuned to.

(7) Handle for pulling the set out of the case.

(8) Socket for the horisontal dipole aerial.

(9) Socket for the rod or pole aerial.

(10) Socket for earphones.

(11) Socket for microtelephone.

(12) Socket for earphones.

(13) Socket for microphone.

(14) Socket for a telegraph key.

(15) Volume knob.

(16) Disturbance control.

6. Accumulator and spare parts case is about 20 cm wide, 30 cm high and 40 cm long. It contains two accumulators, aerial coils, aerial tuning control, various spare parts, 16 spare elctron tubes, 1 microtelephone, 1 connector for field telephone, 1 filed telephone, 2 pairs of earphones, 1 screwdriver, connecting cables for the dynamo and accumulators.

legend for the sketch:

(1) Socket for rod aerial.

(2) Plug for the connection of the rod aerial with the radio set.

(3) Socket for the connection of the rod aerial and pole aerial.

(4) Socket for the connection of the dipole aerial.

(5) Scale for antenna tuning.

(6) Swith for antenna tuning.

(7) Knob for antenna tuning.

(8) Switch for the accumulator charging by the dynamo.

(9) Place for connecting cables with plugs.

(10) Place for tha cabel connecting sources of electric power with the receiver and transmitter.

(11) Earphones.

(12) Earphones and microphone.

(13) Cabel for connecting dynamo with other sources of electric power.

(14) Place for spare parts and screwdrivers.

(15) Box for spare electron tubes, microtelephone and voltmeter.

(16) Swith for the connection with a telephone set TP-25.

(17) Accumulator 2-KN-10.

(18) Accumulator 2-KN-10.

(19) Hinges.

7. A 300-volt dynamo is hand operated by turning a handle. The dynamo proper is located in a metal box of a half-a-cylinder shape; length of the cylinder is about 35 cm, diameter about 25 cm. There are handles on both sides of the cylinder. The dynamo has four folding legs and a folding chair for its operator.

Legend for the sketch:

(1) Metal case.

(2) Indicator showing whether the accumulator is being charged.

(3) Operating handles.

(4) Folding legs.

(5) Folding chair.

8. Antennas:

(7 a) Rod antenna, about 180 cm long, can be used when the radio is used as a mobile set, but its range is short.

(7 b) Pole antenna; a combination of 10 tubes, each 47 cm long. A variation is a pole antenna consisting of 4 tubes on the top of which is

mounted a six-tube star. The pole antenna is used in mountaineous terrain and for longer distances.

(7 c)Direction antenna is used for permanent stations or when there is a danger of listening in by the enemy. The three antenna cables, each about 3 m long , are about 50 cm about above the ground; they are pointed in the direction of the opposite station.

(7 d)Dipole antenna is used when the station settles down for 2-3 days; the antenna consists of two halves, each about 7 m long. A connecting cable leads from each half to the station. The antenna is mounted on trees, or houses.